Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of the claims in the application.

Listing of Claims:

Please amend the claims as follows without prejudice. No new matter has been added by way of these amendments.

What is claimed is:

1. (Original) A downlink system, comprising:

at least one mud pump for pumping drilling fluid from a drilling fluid storage tank to a drilling system;

a standpipe in fluid communication with the mud pump and in fluid communication with the drilling system;

a return line in fluid communication with the drilling system for returning the drilling fluid to the drilling fluid storage tank; and

a drilling fluid modulator in fluid communication with at least one of the group consisting of the standpipe and the return line.

2. (Original) The downlink system of claim 1, wherein the drilling fluid modulator is disposed in-line with the standpipe.

3. (Original) The downlink system of claim 1, wherein the drilling fluid modulator is disposed in-line with the return line.

4. (Original) The downlink system of claim 1, wherein the drilling fluid modulator is disposed in a bypass line that is in fluid communication with the standpipe.

5. (Original) The downlink system of claim 4, wherein the bypass line is in fluid communication with the return line.

6. (Original) The downlink system of claim 4, wherein the bypass line is positioned to discharge drilling fluid into the drilling fluid storage tank.

7. (Original) The downlink system of claim 1, further comprising a flow restrictor.

8. (Original) The downlink system of claim 7, wherein the flow restrictor is disposed upstream from the drilling fluid modulator.

9. (Original) The downlink system of claim 7, wherein the flow restrictor is disposed downstream from the drilling fluid modulator.

10. (Original) The downlink system of claim 7, wherein the flow restrictor is disposed in parallel with the drilling fluid modulator.

11. (Original) The downlink system of claim 1, further comprising a flow diverter.

12. (Original) The downlink system of claim 11, wherein the flow diverter disposed upstream of the modulator.

13. (Original) The downlink system of claim 1, wherein the drilling fluid modulator is operatively coupled to an electronic control system.

14. (Original) The downlink system of claim 1, wherein the modulator is disposed parallel to a flow direction.

15. (Original) The downlink system of claim 1, wherein the modulator is disposed perpendicular to a flow direction.

16. (Withdrawn) A method of transmitting a downlink signal, comprising:
pumping drilling fluid to a drilling system; and
selectively operating a modulator to create pulses in a drilling fluid flow.

17. (Withdrawn) The method of claim 16, wherein the modulator is disposed in a standpipe.

18. (Withdrawn) The method of claim 16, wherein the modulator is disposed in a return line.

19. (Withdrawn) The method of claim 16, wherein the modulator is disposed in a bypass line.

20. (Withdrawn) The method of claim 16, wherein the operating the modulator is performed simultaneously with drilling operations.

21. (Withdrawn) A drilling fluid pump controller, comprising:

at least one actuation device coupled to a control console; and

at least one connector coupled to the at least one actuation device and a pump control mechanism.

22. (Withdrawn) The drilling fluid pump controller of claim 21, wherein the pump control mechanism is a pump control knob.

23. (Withdrawn) The drilling fluid pump controller of claim 21, wherein the pump control mechanism is a pump control lever.

24. (Withdrawn) The drilling fluid pump controller of claim 21, wherein the at least one actuation device is magnetically coupled to the control console.

25. (Withdrawn) The drilling fluid pump controller of claim 21, wherein the at least one connector comprises a connecting rod.

26. (Withdrawn) The drilling fluid pump controller of claim 21, wherein the at least one connector comprises a belt.

27. (Withdrawn) The drilling fluid pump controller of claim 26, wherein the at least one pump control mechanism comprises a pump control knob having a stem and the belt is operatively coupled to the stem.

28. (Withdrawn) The drilling fluid pump controller of claim 21, wherein the at least one connector comprises a drive wheel.

29. (Withdrawn) The drilling fluid pump controller of claim 28, wherein the at least one actuator mechanism further comprises a tension arm.

30. (Withdrawn) A method for generating a downlink signal, comprising:

coupling a actuation device to a pump control panel;

coupling the actuation device to a pump control device on the pump control panel; and

creating a pulse in a drilling fluid flow by selectively controlling the pump control device with the actuation device.

31. (Withdrawn) The method of claim 30, wherein the creating a pulse is done simultaneous with drilling operations.

32. (Original) A downlink system, comprising:

a drilling fluid pump in fluid communication with a drilling system, the drilling fluid pump having a plurality of pumping elements; and

a pump inefficiency controller operatively coupled to at least one of the plurality of pumping elements for selectively reducing the efficiency of the at least one of the plurality of pumping elements.

33. (Original) The downlink system of claim 32, wherein the pump inefficiency controller is operatively coupled to an intake valve of the at least one of the plurality of pumping elements.

34. (Withdrawn) A method of generating a downlink signal, comprising:

pumping drilling fluid using at least one drilling fluid pump having a plurality of pumping elements; and

creating a pulse in a drilling fluid flow by selectively reducing the efficiency of at least one of the plurality of pumping elements.

35. (Original) A downlink system, comprising:

at least one primary drilling fluid pump in fluid communication with a drilling fluid tank at an intake of the at least one drilling fluid pump and in fluid communication with a standpipe at a discharge of the at least one drilling fluid pump; and

a reciprocating downlink pump in fluid communication with the standpipe at a discharge of the reciprocating downlink pump.

36. (Original) The downlink system of claim 35, wherein downlink pump is in fluid communication with the standpipe at an intake of the reciprocating downlink pump.

37. (Original) The downlink system of claim 35, wherein drilling fluid passes in and out of the downlink pump through the discharge of the reciprocating downlink pump.

38. (Original) The downlink system of claim 35, wherein reciprocating downlink pump is in fluid communication with the drilling fluid tank at an intake of the reciprocating downlink pump.

39. (Original) The downlink system of claim 35, wherein reciprocating downlink pump comprises a diaphragm pump.

40. (Original) The downlink system of claim 35, further comprising a second reciprocating downlink.

41. (Withdrawn) A method of generating a downlink signal, comprising:

pumping drilling fluid to a drilling system at a nominal flow rate; and

selectively alternately increasing and decreasing the mud flow rate of the drilling fluid using a downlink pump having an intake that is in fluid communication with a standpipe and having a discharge that is in fluid communication with the standpipe.

42. (Original) A downlink system, comprising:

at least one primary drilling fluid pump in fluid communication with a drilling fluid tank at an intake of the at least one drilling fluid pump and in fluid communication with a standpipe at a discharge of the at least one drilling fluid pump; and

an electronic circuitry operatively coupled to the at least one primary drilling fluid pump and adapted to modulate a speed of the at least one primary drilling fluid pump.

43. (Withdrawn) A method of generating a downlink signal, comprising:

operating at least one primary drilling fluid pump to pump drilling fluid through a drilling system; and

engaging an electronic circuitry that is operatively coupled to the at least one primary drilling fluid pump to modulate a speed of the at least one primary drilling fluid pump.